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ENTOMOLOGICAL NEWS

OCTOBER 1944

Vol. LV No. 8

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ENTOMOLOGICAL NEWS

VOL. LV OCTOBER, 1944 No. 8

A Note on Lecontella cancellata Lec. (Coleoptera: Cleridae) in Cells of the Mud-Daubing Wasp

By PHIL RAU, Kirkwood, Missouri

Members of the beetle family Cleridae are generally regarded as predators, although Dr. C. P. Clausen, in his recently published book "Entomophagous Insects," says that several species of these beetles that develop upon the larvae of bees "are somewhat on the border line between parasitism and predatism."

In Crawford County, Missouri, I have found a beetle of this family, *Lecontella cancellata* Lec.,[1] which is evidently one such borderland species, with the weight of evidence much in favor of parasitism rather than predatism.

In addition to finding two dead beetles in old cells of the mud-wasp, *Sceliphron caementarium,* in 1942, I also found in a sealed cell a quiescent larva that pupated on May 9 and eight days later transformed into an adult. This beetle larva, as already stated, was found in a sealed cell, which indicates that egg or young had gained access to the nest while it was being provisioned by the wasp; this, I think, places the beetle in the position of a parasite or parasitoid rather than a predator.

In an important paper by Linsley and MacSwain,[2] I find that several other members of the family Cleridae are predaceous on a good many species of Aculeate Hymenoptera, but this is the first record, so far as I know, of a clerid beetle developing upon the wasp, *Sceliphron caementarium.*

[1] Kindly determined by Mr. A. E. Chapin.

[2] Observations on the life history of *Trichodes ornatus,* a larval predator of bees and wasps. Ann. Ent. Soc. Amer., 3: 589–601. 1943.

Notes on Oecleus Stal (Homoptera: Ciciidae)

By JOHN S. CALDWELL, Circleville, Ohio

(*Continued from page 176*)

Oecleus apterapunctatus new species (figs. 4 & 4a)

Length 6.5 mm. Yellow with extremities of frons dark. Fore-femora dark for basal two-thirds. Eyes black. Mesonotum black between intermediate and median carinae.

Vertex produced, broadened before the eyes, closed caudad. Frons with very prominent lateral carinae. Profile right-angled. Base of costa broadened. Punctations not visible on veins. Medio-ventral process of male pygofers elongate-bulbose apically.

Male holotype from Tehuantepec, Oaxaca, MEXICO, 10–13–41 (DeLong, Good, Caldwell, and Plummer).

Oecleus concinnus Fowler (figs. 5 & 5a)

This is not *lineatus* Ball as stated by that writer but is a distinct species easily identified by the bright carinae of the thorax, yellowish elytra, and broadened costal base. The medio-ventral process of the male pygofers is also very elongate and slender. Specimens from Morelos (DeLong and Plummer) and Jalisco (Dampf) in Mexico.

Oecleus minimus Fowler (figs. 6 & 6a)

This species is between 4–6 mm. and for the length is much more slender than *pellucens* which it resembles. The punctations on the veins are much more pronounced and slightly denser. The costal vein is not broadened at the base. As a rule the general color of the thorax is darker than the darkest variations of *pellucens*. Specimens from Chiapas, Guerrero, Oaxaca, San Luis Potosi, and Veracruz in Mexico.

Oecleus infuscatus new species (figs. 7 & 7a)

Length 6–6.8 mm. General color black. Wings fuscous. Carinae of face yellow. Pronotum with light carinae and a

yellow dash on either side far laterad. Mesonotum with intermediate carinae and two dashes in lateral compartments dark orange.

Face rounded in profile. Vertex scarcely produced before the eyes, very broad, open caudad. Costa not broadened at base. Anal segment of male long, straight. Lateral margins of pygofers produced somewhat basad; medio-ventral process, broad, subtrianguler.

Male holotype and female allotype from Acapulco, Guerrero, Mexico, 9–10–39 (DeLong and Plummer).

Oecleus delongi new species (figs. 8 & 8a)

Length 5–6.8 mm. Face dark; lateral carinae light; median carinae orange. Mesonotum black with orange carinae and two dashes in either lateral compartment, one dash cephalad near the lateral carinae and the other caudad near the outer angles. Elytra hyaline, whitish, with veins becoming darker apically; two dark dashes present along sutural margin before apex of clavus.

Profile rounding. Vertex produced before the eyes, broad, not closed caudad. Base of costa not broadened. Medio-ventral process of male pygofers quadrate basad, produced apically.

Male holotype, female allotype, and paratypes from Tamazunchale, San Luis Potosi, Mexico, 8–29–39 (F. M. & D. M. DeLong).

The writer takes great pleasure in naming this distinct species in honor of the collectors, Dr. and Mrs. D. M. DeLong.

Oecleus constrictus new species (figs. 9 & 9a)

Length 4.5–5 mm. Uniformly light to dark yellow with the exception of dark eyes, tarsi, and dark brown bordering the lateral carinae of the mesonotum. Punctations on veins black, small but very distinct. Vertex very narrow, produced. Profile angular. Frons much narrowed between the eyes. Base of costa not broadened. Anal segment of male elongate. Medio-ventral process of pygofers elongate, subtriangular.

Male holotype, three paratypes, and female allotype from Huetamo, Michoacan, MEXICO, 8–22–33 (Dampf).

Oecleus cephalicus new species (figs. 10 & 10a)

Length 4.5–6 mm. Orange species with black eyes, tarsi, and the spaces between the carinae of the mesonotum. Female with two black dashes in the lateral compartments, one cephalad and the other caudad; male with only one dash. Punctations on veins very prominent, black; cross veins and apical terminations of all veins broadly fuscous.

Vertex greatly produced, apex broad, flat. Frons very elongate, scarcely narrowed between the eyes. Profile acute; apex of head projecting dorsad. Elytra short, broad, small in proportion to rest of body. Base of costa not broadened. Medio-ventral process of male pygofers very small, acute.

Male holotype and female allotype of this unique species from San Miguel. EL SALVADOR, 3–19–42 (Plummer).

Oecleus spatulatus new species (figs. 11 & 11a)

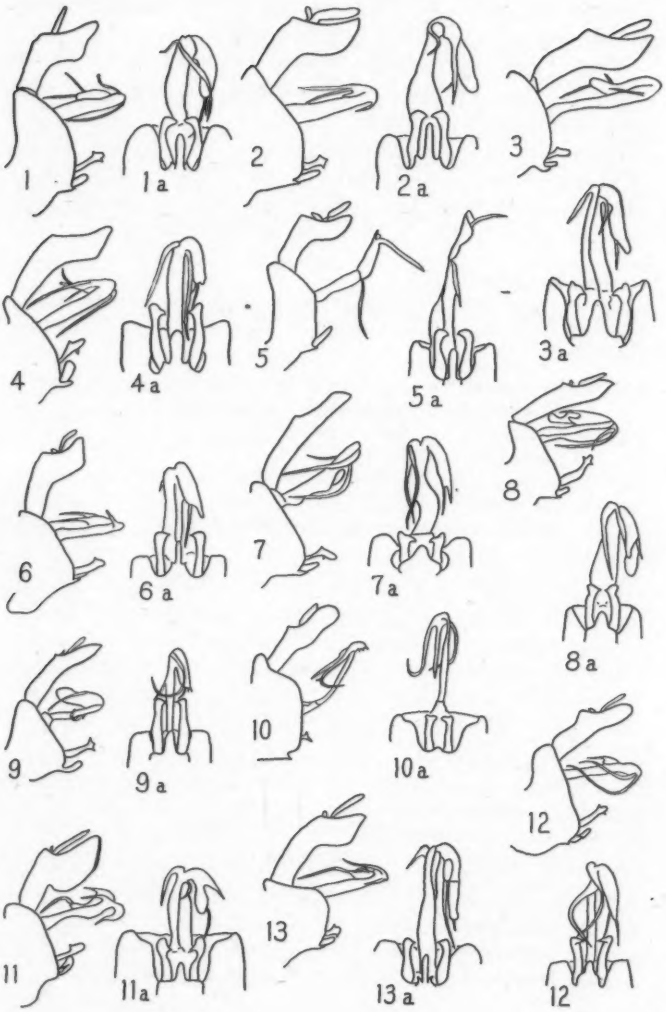
Length 4.5–5 mm. Vertex and face dark with orange carinae. Eyes and pronotum gray. Mesonotum black with orange carinae and a large orange spot in either lateral compartment. Elytra whitish, hyaline, with yellow veins; punctations black.

Vertex produced, much widened before the eyes; tapered closed caudad. Frons very narrow. Profile right-angled. Base of costa not broadened. Anal segment of male greatly enlarged apically. Medio-ventral process quadrate basad, produced apically.

Male holotype, female allotype, and paratypes from Los Amatos, GUATEMALA, 1–17–05, paratypes same locality 2–25–05, and from Point Barrows, 3–3–05, are in the H. Osborn collection at Columbus, Ohio, paratypes in writer's collection.

Oecleus quinquilineatus new species (figs. 12 & 12a)

Length 5–5.5 mm. Coloration and marking very similar to *quadrilineatus* Van Duzee from Arizona. In addition to the four intercarinate dashes, the median carina is very narrowly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orange. Median carina of frons very short, orange, whereas in that species the carina is long and yellow.

Vertex very short, evenly tapered to closed base. Profile rounded. Base of costa not broadened. Aedeagus of male with four spine-like processes.

Male holotype from Xaltiangus, Guerrero, MEXICO, 10–23–41 (DeLong, Good, Caldwell, and Plummer), male paratype from Cuernavaca, Morelos, 10–14–31 (Plummer), and female allotype from Tierra Blanca, Veracruz, 9–17–24 (Dampf).

Oecleus campestris Ball

One male specimen from Jalisco in Mexico, 8–24–37 (Dampf).

Fig. 1. *O. pellucens* Fowler. Lateral view of abdominal apex of male.
1a. Ventral view of abdominal apex of male in fig. 1.
Fig. 2. *O. dubius* n. sp. Same view as in 1.
2a. Same view as in 1a.
Fig. 3. *O. parallelus* n. sp. Same view as in 1.
3a. Same view as in 1a.
Fig. 4. *O. apterapunctatus* n. sp. Same view as in 1.
4a. Same view as in 1a.
Fig. 5. *O. concinnus* Fowler. Same view as in 1.
5a. Same view as in 1a.
Fig. 6. *O. minimus* Fowler. Same view as in 1.
6a. Same view as in 1a.
Fig. 7. *O. infuscatus* n. sp. Same view as in 1.
7a. Same view as in 1a.
Fig. 8. *O. delongi* n. sp. Same view as in 1.
8a. Same view as in 1a.
Fig. 9. *O. constrictus* n. sp. Same view as in 1.
9a. Same view as in 1a.
Fig. 10. *O. cephalicus* n. sp. Same view as in 1.
10a. Same view as in 1a.
Fig. 11. *O. spatulatus* n. sp. Same view as in 1.
11a. Same view as in 1a.
Fig. 12. *O. quinquilineatus* n. sp. Same view as in 1.
12a. Same view as in 1a.
Fig. 13. *O. decens* Stal (after Fowler). Same view as in 1.
13a. Same view as in 1a.

Some Syrphid Fly Genera (Diptera)

By F. M. Hull, University of Mississippi

During the past several years a few peculiar Syrphid flies have been studied which do not appear to belong in existing genera. Several of these are based upon undescribed species and in other cases represent reassignments of existing species. The first of these several flies are treated in this paper.

Syrittosyrphus new genus

Eyes bare, holopticism well developed in the male. Vertex and front a little swollen. Antennae short, the third joint oval, about twice as long as wide and with dorsal arista. Face well developed, barely concave, the epistoma but little produced. Thorax long pilose particularly upon the sides and posteriorly and upon the scutellum. Scutellum quite wide, with a deep, crimped margin and long pile and particularly abundant ventral fringe. Abdomen elongate-oval, the pile setaceous and flat-appressed except near the sides of the base. The legs have a quite long trochanteral spine (male). Hind femora stout, the thickening distributed throughout and without apical spines. Wings villose except about the basal cells. Marginal cell widely open, the second longitudinal vein recurrent. Small cross vein joining the fourth longitudinal vein near the outer end of the discal cell. Third vein with a deep, somewhat oblique loop.

Genotype: *S. opacea* new species. (Cape Province.)

This genus is related to *Korinchia* but is distinguished by the widely opened marginal cell.

Syrittosyrphus opacea new species

Male. Length 15 mm.; wing 10.5 mm. Head: hemispherical, barely wider than thorax. Eyes touching for a short distance. Occiput shining brownish-black, the ocelli large. Front very convex viewed from in front; also convex in profile and shining, dark reddish-brown in color. Face chiefly dark brown with a V-shaped mark running from the anterior oral margin

diagonally upwards through the middle of the face to a point on the eye margin below the antennae. This leaves above it a broad band of pale, feebly shining yellow that encircles the face below the antennae; below the V-shaped black facial stripe that separates the cheek from the face, there is a similarly colored brownish-yellow band. Antennae dark brown, the first and second joints short, subequal; the third joint about twice as long as its basal width, its apical width somewhat less than that of the base and its apex broadly rounded, its inner surface with a deep pit; arista thick, pale yellow, almost white upon the apical half and its length considerably greater than that of the antennae. Eyes bare, the facets scarcely thickened above. Thorax: broad, rather flattened, obscurely shining black with dark brown to brownish-grey pollen and a mixture of suberect, moderately long black and pale hairs. The pile upon the humeri is more extensively yellow, wholly yellow on the sides of the mesonotum just posterior to the humeri, and long and yellow upon the meso-, sterno-, and pteropleurae. Scutellum broad, over twice as wide as long, light brownish-yellow, paler apically and with strongly impressed and emarginate rim; there is long, thick, brownish-yellow pile above and below. Abdomen: about twice as long as wide, widest at the end of the second segment, the first segment barely less wide, and the end of the fourth segment about three-fifths as wide as the second segment. Whole abdomen obscurely brown and brownish-yellow. Second segment light brown, brownish pubescent, transversely darker brown along its base, its pile everywhere pale. The second segment is more widely brownish along the entire posterior margin and this brown area is connected to the anterior brown color and is also continuous with the narrow brown lateral margins. Near the base on either side is a large brownish-yellow spot of rectangular shape. Third segment obscurely brownish-yellow along the entire basal marginal third and also obscurely yellowish pollinose; the yellow pollen tends to form a median vitta. Elsewhere the segment is dark brown. Fourth segment wholly dark brown with a narrow, basal, medial and similar, subapical transverse band of faint, pale pollen. The pile of the dark brown areas

is chiefly appressed, black and setaceous. Lateral margins of the segments with long, pale pile, and especially on the anterior corners of the second segment. Hypopygium large, shining brownish-black. Legs: all the femora dark brown in color, the first and second femora seen from the front are pale pubescent, pale pilose with darker and somewhat blackish areas upon the apical half. Hind femora strongly thickened, the increase in width being spread out over more or less the whole length; there is stiff, bristly black pile ventrally. Hind coxae with a large, heavy, sharp black spine. All of the tibiae are dark upon the apical two-thirds, yellowish white basally. All of the tarsi reddish-brown. Wings: smoky brown on the apical fourth, narrowly brownish in the middle below the stigma with a strong stigmal cross vein. The veins are dark brown, the third longitudinal vein deeply-looped into the first posterior cell and the marginal cell is widely open.

Holotype: a male. Cape Province. Somerset East, Nov. 1930, R. E. Turner. The type is in the British Museum.

Catacores new genus

Eyes large and bare; holopticism well developed in the male. Front a little swollen. Antennae short, the third joint oval, the arista dorsal. Face tuberculate, concave above. Epistoma not greatly produced. Thorax short pilose, unmarked. Scutellum about twice as wide at base as long; the margin of the scutellum with a well marked preapical crease. Abdomen short and broad at base, with four segments visible from above. Wings hyaline, the marginal cell well open, the third longitudinal vein with a deep kink dipping into the first posterior cell. Small cross vein at the middle of the discal cell. Legs simple, the hind femora a little thickened.

Genotype: *Axona cyanea* Brunetti. (India.)

This genus is related to *Helophilus* and perhaps *Mesembrius*. The eyes are markedly holoptic. I have studied a specimen of *cyanea* Brunetti kindly loaned me by the Vienna Museum and have compared it with *Axona chalcopyga* Wiedemann, specimens of which are before me, and do not consider the two congeneric.

A Note on the Dates of Loew's Diptera Americae Septentrionalis Indigena

By Ezra T. Cresson, Jr., Academy of Natural Sciences of Philadelphia

During his residence in the United States, in part as Secretary of the Russian Legation at Washington (1856–1877), Charles Robert, Baron Osten Sacken, in collaboration with the eminent European Dipterist Dr. Hermann Loew, undertook to work up the Diptera of North America, north of the Isthmus of Panama, with the title of "Monograph of the Diptera of North America," of which four volumes only were published; the material for which was to be secured by Osten Sacken through various channels.

Unfortunately, Loew, who was also studying other material and publishing his results, became impatient of the delays in the issuances of the Monographs, although some of these delays were of Loew's own making.* The descriptions of the numerous species which he found in the mass of material Osten Sacken sent him, required publication and could not be held for inclusion in slowly appearing monographs. Furthermore, Loew was much averse to monographic study on a large scale, requiring long patient study; he preferred to produce "a large number of short, disconnected articles, such as descriptions of new species, critical summaries of small groups, local lists of species, etc. This manner of work may have been easier and more handy for him in his circumstances, and among the multitude of various occupations which his insatiable energy required." To get his new species timely described he resorted to a series of Centuries under title "Diptera Americae Septentrionalis Indigena" of which ten were published each containing descriptions of one hundred species. These appeared in the comparatively new journal, "Berliner Entomologische Zeitschrift," for 1861 to 1872. They were also collected and published, retaining original pagination, as "Diptera Americae Septentrionalis Indigena.

* See Osten Sacken's Record of my Life Work in Entomology, 1903.

Descripsit H. Loew. Berloni. Typis A. W. Schadii," in two parts; the first part, bearing title date, 1861, contained Centuries I to V and index; the second part, dated 1865–1872, contained Centuries VI to X and index to the two parts. As Century V first appeared in 1864, naturally the first part of the reprint could not have been published prior to that date.

These Centuries should be cited as, for example: *Parydra abbreviatata* Loew, Berl. Ent. Zeit., V, p. 357, 1861. (Cent. I, no. 97.) As the Dipt. Amer. Sept. Indig. is merely a reprint in facsimile, it is unnecessary to quote it, but as it is generally the work possessed, or consulted, by many students, it should be well for the owner to renumber the pages in agreement with the original in the Berliner Entomologische Zeitschrift.

The following shows the corresponding pages in the two works:

Berl. Ent. Zeit.	Centuria	Dipt. Amer. Sept. Indig.
V, pp. 307–359, 1861	I	I, pp. 1– 53, 1864
VI, 185–232, 1862	II	55–102
VII, 1– 55, 1863	III	103–157
VII, 275–310, 1863	IV	159–210
VIII, 49– 99, 1864	V	211–261
		Index 262–266
IX, pp. 127–186, 1865	VI	II, pp. 1– 60, 1872
X, 1– 54, 1866	VII	61–114
XIII, 1– 52, 1869	VIII	115–166
XIII, 129–186, 1869	IX	167–224
XVI, 49–115, 1872	X	225–291
		Index 292–300

Notes on Emergence, Swarming, and Mating of Hexagenia (Ephemeroptera) [1]

By F. Earle Lyman, Norris, Tennessee

The western end of Lake Erie produces yearly prodigious numbers of *Hexagenia* mayflies belonging to three species: *H. limbata* (Serville), *H. rigida* McDunnough, and *H. affiliata* Mc-

[1] The writer expresses appreciation to Dr. Thomas H. Langlois, Director of The Ohio State University, Franz Theodore Stone Laboratory for use of the laboratory facilities during the summer of 1940 and to Dr. David C. Chandler for helpful suggestions.

Dunnough. These are named in the order of relative abundance and of seasonal emergence. The specimens recorded by Wiebe (1926) as *H. bilineata* (Say) from this region were evidently one or more of the above species, since *bilineata* appears to be limited in distribution to the Mississippi River drainage. It should be pointed out that some mayfly taxonomists (McDunnough 1927; Spieth 1940) have subdivided *H. limbata,* by far the most common species in the Great Lakes Region, into two subspecies: *H. limbata occulta* (Walker) and *H. limbata viridescens* (Walker). Both of these subspecies occur in the Put-in-Bay area.

Several specimens of an albino form of *H. rigida* were collected in July 1940. The identification of these unusual specimens in the absence of color markings is based upon the form of genitalia which is distinct for this species. A single albino specimen of this species had been collected previously by Mr. Dale W. Jenkins on July 1, 1938. Further collecting and study may show that this is a subspecies of *rigida.*

The emergence of *Hexagenia* begins toward the end of June and continues to September; the peak of emergence is reached during July and is due primarily to individuals of *H. limbata.* However, soon after the beginning of the *limbata* emergence, *H. rigida* makes its appearance and is followed about the middle of July by *H. affiliata;* hence, all three species are present at the same time. Except at the very peak of abundance when specimens are found about equally distributed almost everywhere, it was noted that local concentrations of *Hexagenia* individuals were dependent to a large degree upon wind direction. Emerging subimagoes tend to be carried and to fly with the wind; therefore, during a period of on-shore breeze individuals accumulated on one side of an island while relatively few specimens could be found on the opposite shores.

In a personal communication from Dr. Langlois the writer has learned that the emergences of *Hexagenia* were not as large in the summers of 1941 and 1942 as they were in 1940 and 1943. This observation seems to indicate a cyclic trend in the population numbers of *Hexagenia* which has also been noted by the author for other localities (unpublished data).

Typical examples of swarming were observed from South Bass Island during the forepart of July 1940. Swarming activity was begun about 8:00 p.m. (E.S.T.) by a few male individuals taking to the air from the trees and shrubs that had furnished them with resting places and concealment during the subimaginal period and during the daytime. Most individuals flew low to the ground at the start but as the numbers increased the swarm moved gradually higher. Dense swarms were observed over the islands of South Bass, Rattlesnake, Middle Bass, and Gibraltar. These swarms were so thick as to appear like clouds of smoke weaving up and down over the tree-tops of the respective islands. Swarming took place well over the land and individuals were most concentrated over the trees fringing the shores. Very few individuals were seen flying over the water as compared to the numbers over the land. The location of swarms over land and the trees in particular is apparently correlated with the fact that the females, which are relatively cumbersome in flight owing to the weight of the egg packets, do not usually take part in the actual swarming activity which is carried on primarily by the males, are most numerous in the trees along the shore, and enter the swarming males only to mate. At various times especially huge flights resulted from the accumulation of individuals over several days owing to the cool, rainy, and windy weather of the days immediately preceding the flights. Such weather inhibits swarming activity. By 8:30 p.m. many mating pairs were seen. The swarming continued until darkness obscured further observations.

In the course of nightly observations it was a common occurrence to see males of one species *in copula* with females of another species. Also imago males often attempted copulation with female subimagoes. At times two or three males were seen clinging to a single female. Occasionally two males were seen flying together as though attempting to mate, the fore legs of one individual grasping securely the mesothorax of the other as in the manner described below for male and female. The greater length of the fore legs of mayfly males in general is well-known. The advantages of this sexually dimorphic character

are apparent when the details of the way in which the male grasps the female are observed. The relatively sluggish flight and large size of *Hexagenia* individuals are especially propitious to the capture of copulating pairs and for observing the intricacies of the method used by the male for maintaining his attachment to the female while the pair is in flight. The male approaches the female from below and the already upwardly extended fore legs are securely anchored to the mesothorax of the female. The tarsi of the male are crossed over one another across the mesonotum of the female, are passed around the anterior edge of the fore wing base, and the respective tarsal claws are hooked into the pleural wing recess which is located ventrally on each wing near the base. The capture of numerous pairs demonstrated these facts repeatedly; however, observations had to be made rapidly for the pairs became separated easily when disturbed. Actual copulation was accomplished when the abdomen of the male was curved upward and the abdomen of the female was encircled by the forceps usually about the ninth segment. The observations made by Cooke (1940) upon *Stenonema vicarium* (Walker) wherein it is stated that the male placed the fore legs over the prothorax and the head of the female are worthy of note. During the writer's experience in observing *Hexagenia* pairs the fore legs of the male often became unseated from their normal attachments on the mesothorax and then appeared to be attached to the prothorax.

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Recent Work by the International Commission on Zoological Nomenclature

By FRANCIS HEMMING, Secretary to the International Commission on Zoological Nomenclature

The International Commission on Zoological Nomenclature is now engaged in the publication of decisions taken before the outbreak of war in 1939. These decisions have been embodied in *Opinions* 134–183 and *Declarations* 10–12. Of these, *Opinions* 134–155 and the 3 *Declarations* have already been published or are in the press. The remainder are ready for printing and will be published as soon as funds are available.

These *Opinions* are of particular interest to entomologists, since in addition to 9 *Opinions* relating to the interpretation of various aspects of the International Code, no less than 38 of these *Opinions* are directly concerned with entomological subjects.

The *Opinions* relating to the interpretation of the Code are: *Opinion* 138 (meaning of phrase "definite bibliographic reference" in Article 25); *Opinion* 141 (naming of families); *Opinion* 143 (status of names first published in invalid works); *Opinion* 147 (generic names of same origin and meaning as older generic names); *Opinion* 148 (status relating to names published as emendations of, or substitutes for, older names); *Opinion* 164 (position as regards types when two or more genera are united); *Opinion* 168 (supplementing *Opinion* 65 regarding genera based upon erroneously determined species); *Opinion* 172 (status of type—designations of genera in abstracts, etc.); and *Opinion* 183 (interpretation of Article 8 relating to form in which generic names should be published).

Of the *Opinions* specially concerned with entomological subjects, 6 deal with the status of particular works or with the dates of such works: *Opinion* 136 (Latreille, 1810) affects all Orders of insects; *Opinion* 135 ("Erlangen List," 1801) is of special interest to hymenopterists; *Opinions* 134 (Freyer, *Neue Beiträge*), 138 (Hübner, *Samml. exet. Schmett* 1807 and Fabricius,

Mag. Insektenk. (Illiger) 1807) and 150 (Hübner, *Verz. bek. Schmett*) are concerned with Lepidoptera and *Opinion* 152 (Meigen, 1800) with Diptera. *Opinions* 140 and 143 deal with certain family names in insects.

The remaining 30 *Opinions* deal with particular generic names in various Orders of insects. These *Opinions* either fix the types of these genera or add the names to the *Official List of Generic Names in Zoology,* or do both. Three of these *Opinions* are concerned with Orthoptera; 13 with Hymenoptera and 14 with Lepidoptera.

Each *Opinion* is published separately but *Opinions* are consecutively paged to facilitate the publication of an index on the completion of the volume concerned.

The International Commission are most anxious to secure that *Opinions* are published as rapidly as possible but they are greatly hampered by lack of funds. The Commission therefore appeal to scientific institutions and individual scientific workers for donations to a special fund to be used for the issue of publications. Full particulars of this Appeal are given in Part 2 of the Commission's Official Organ, the *Bulletin of Zoological Nomenclature* published in 1943.

Contributions, however small, will be warmly welcomed and will be acknowledged in the *Bulletin.* Bankers' drafts, cheques, and money orders should be made payable to the 'International Commission on Zoological Nomenclature' and sent to the Commission at their Publications Office, 41 Queen's Gate, London, S.W.7. All orders for the Commission's publications should be sent to the same address. Inquiries relating to the work of the Commission should be addressed to me at 83 Fellows Road (Garden Flat), London, N.W.3.

Notes and News in Entomology

In the February issue of the NEWS under Notes and News in Entomology we quoted a denouncement of light-trap studies of phototropism by Squire.* This aroused some comment. The editors do not pretend to be authorities in this complex field. Accordingly we asked for the following evaluations—one from an entomologist who is familiar with biophysical problems and techniques and who has studied phototropism by the use of light traps, the other from an entomologist who has studied phototropism under carefully controlled laboratory conditions.

The editors would be glad to have other similar queries raised on subjects of general interest for brief evaluation or comments by other workers. THE EDITORS.

Squire's indictment of the traplight approach to studies of insect phototropism is probably quite sound as applied to conclusions derived from catches by traps which have not been carefully operated to preclude errors. Study of light-traps by prototropic response is a preliminary requirement if later experimental data from those traps are to receive consideration. Such a study was made in the summers of 1938 and 1940 in connection with experiments on the selection of colored lights by night flying insects at the Mountain Lake Biological Station in Virginia. In this study, two or more identical light-traps were exposed side by side, facing in the same direction, and analysis was made of the insects collected. In part the results were these: (1) Insects (except some Coleoptera and arctiid moths) fly to an attracting light with considerable accuracy (as shown by the size and nature of the haul in adjacent unlit traps), (2) Selection of traplights of equal color and brilliance, equally exposed, is random unless affected by external factors (such as crosswind) in which case the disproportion in catch is regularly in one direction for all species, (3) Approximately 90% of the total *specimens* collected by traplight methods are of species which arrive in sufficient numbers for valid statistical study, and (4) Over 90% of the *species* coming to light-traps do so in

* Ent. News, 55: 52-53, 1944.

numbers too small for reliable statistical analysis. Thus when precautions are taken to find and evaluate errors common in light-trap studies, the technique can yield valuable information on the photopositive response of species which arrive in large numbers. It is interesting to note that of the abundant species in 1938, only a third were in that category again in 1940, and that the colder, drier season (1938) produced fewer species but more specimens than the warmer, wetter one (1940). The full report on these investigations will appear soon in the Annals of the Entomological Society of America. L. J. MILNE.

Relative to the quotation from Squire concerning studies of phototropism by means of light-traps, as reported in the February, 1944, NEWS, p. 52, I am inclined to agree with the conclusion that phototropism cannot be adequately studied by the light-trap method: First, because the aggregate of insects is not known, and second, because the relative radiant intensity, of the source lamp, for different points in the spectrum, is also seldom known. It is also true that not all insects are equally photosensitive at the same time. Variations exist in the sensitivity of their visual receptors. These may be connected with different physiological states; they may be due to a depletion of the primary photosensitive substance in the visual sense cells due to previous exposure to light; they may be due to the angle of incidence; or to the influence of the central nervous system, etc., etc., etc. The study of phototropism in insects needs a more refined piece of apparatus than a light-trap.

On the other hand, light-traps have their uses in connection with the sampling of mosquito populations, the collection of information on geographical distribution, seasonal distribution, influence of temperature, etc., on flight, etc. In work of this sort, entomologists are not studying phototropism as such, but are taking advantage of the positive phototropism of certain members of an aggregate in order to collect other types of information. When Squire characterized the light-trap method as worthless, I believe he meant it in connection with a study of phototropism and not in connection with the uses of light-traps as enumerated above. HARRY B. WEISS.

Obituary Notices

The Secretary of the Royal Entomological Society of London announced the death of **Dr.** and **Mrs. W. Junk** in December, 1942 in the Hague. Dr. Junk was well-known as a scientific publisher and as editor of the Coleopterorum Catalogus. Delayed news of his death has only recently been received through the Netherlands Red Cross. Proc. Roy. Ent. Soc. London, C, 9 (5): 19. June 7, 1944.

Dr. Dayton Stoner, state zoologist of the New York State Museum, died in Albany, May 8, 1944. In earlier years he had published on Pentatomoidea, especially of Iowa. He was born at North Liberty, Iowa, November 26, 1883, and took the degrees of A.B., M.S. and Ph.D. at the University of Iowa where, as a member of the faculty, he remained until 1928. An obituary notice by W. L. McAttee appeared in Science for July 28, 1944.

Dr. Charles E. Sanborn, formerly professor of entomology and head of the department of entomology at the Oklahoma Agricultural and Mechanical College, died on July 5, 1944. He was particularly interested in medical entomology, especially anaplasmosis in cattle and its transmission by horse flies—a vector relationship which he helped establish. An obituary notice by G. W. Stiles appeared in Science for August 18, 1944.

Mr. Charles S. Beckwith, a resident member of the American Entomological Society, died of heart attack at his home in New Jersey on May 18, 1944. He was a graduate of Rutgers University, and was interested in economic entomology in relation to bog ecology. He was entomologist in charge of the New Jersey Cranberry and Blueberry Agricultural Experiment Station at Pemberton, New Jersey, and most of his entomological work was associated with these two crops. He had held numerous positions, viz. secretary-treasurer of the Eastern Branch of Economic Entomologists, secretary of the American Cranberry Growers Association, secretary of the New Jersey Blueberry Cooperative Association, chairman of the Pemberton Board of Health (he was interested in promoting mosquito control work) and even mayor of Pemberton for two terms.

Honorary Members, New York Entomological Society

At the meeting of the New York Entomological Society, April 18, 1944, eight more persons were elected to Honorary Membership in that society. With one previously elected (Dr. Howard) there are now nine such members. Those so honored are:

Nathan Banks
T. D. A. Cockerell
Wm. T. Davis
L. O. Howard
J. McDunnough
A. L. Melander
James G. Needham
Herbert Osborn
R. E. Snodgrass

Current Entomological Literature

COMPILED BY THE EDITORIAL STAFF.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of Journals given at the end of the literature. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

GENERAL—Cerqueira, N. L.—Um novo meio para montagem de pequenos insectos em laminas. [111] 39: 37–41. **Cronin, J. W.**—Handbook of card distribution [of Library of Congress] 7th edit. Washington, Libr. of Congr. Mar. 15, 1944. **Doetschman, W. H.**—Some suggestions in microtechnique particularly useful in microentomology and parasitology. [89] 63: 174–78. **Fletcher, F. C.**—Entomologists' five-foot bookshelf. [118] 17:83–86. **Hovanitz, W.**—Genetic study of wild populations and evolution. ["Caldasia" Bol. Inst. Cie. Nat. Univ. Nac. Colombia] 10: 459–64. **Hubbs, C. L.**—Concepts of homology and analogy [90] 78 (777): 289–307. **Knowlton & Maddock.**—Insect food of the western meadowlark. [120] 4: 101–102. **Lutz, Frank Eugene**—Obituary. [4] 76: 69. **Malcolm, M. C.**—Mice eating moths. [21] 56: 59. **Moojen, J.**—Ecogenizacao e domesticidade. [32] 14–17: 83–128, ill. **Rolfs, Peter Henry.**—Obituary notice. [39] 27: 1–4, ill. **Schubart, O.**—Fauna do Est. de Pernambuco e dos Est. Limitrofes. Secunda list. [32] 14–17: 21–64, ill. **Stafford, A. E.**—Prices of insects. [9] 77: 78. **Strickland, A. H.**—The arthropod fauna of some tropical soils with notes on the techniques applicable to entomological soil surveys. [Tropical Agriculture, Trinidad] 21 (6): 107–114. **Twinn, C. R.**—A note on DDT, the new synthetic insecticide. [4] 76: 87–88. **Yothers & Carlson**—A graphic method of indicating the incidence of an insect population. [12] 37: 300–01. **Zalessky, G.**—Brief statement of reason for some changes in the terminology of insect wing venation. [107] 19: 37–47, ill.

ANATOMY, PHYSIOLOGY, MEDICAL—Andrewartha, H. G.—Air temperature records as a guide to the date of hatching of nymphs of Austroicetes cruciata. [22] 35: 31–41. **Baker, E. W.**—Studies on the response of fruitflies to temperature. [12] 37: 280–83. **Bodenstein, D.**—The induction of larval moults in Drosophila. [92] 86: 113–124. **Brauer, A.**—Modification of development in bruchid embryos by treatment with amino acids [Trans. Kent. Acad. Sci.] 10: 24–28, ill. **Christophers, R.**—Structure of the Culex egg and egg-raft in relation to function (Abst.). [109] 9: 13–14. **Cook, E. F.**—Morphology and musculature of the labrum and clypeus of insects. [117] 9: 1–35, ill. **Comeau, N. M.**—Le parthenogenese chez les Ophionidae [abstract]. [96] 10: 103. **Crampton, G. C.**—A comparative morphological study of the terminalia of

male calypterate cyclorrhaphous Diptera and their acalypterate relatives. [19] 39: 1–31, ill. **Dobzhansky, T.**—Distribution of heterochromatin in the chromosomes of Drosophila pallidipennis. [90] 78: 193–213. Drosphila mutants [Review]. [68] 100 (2586): 52. **Feldman-Muhsam, B.**—Studies on the ecology of the Levant house fly (M. domestica vicina). [22] 35: 53–67. **Frost, Dills & Nicholas**—The effects of infrared radiation on certain insects. [12] 37: 290. **Goldhaber & Feldman-Muhsam.**—Immediate effects of x-rays on the movements of larvae and pupae of mosquitoes. [31] 153: 528. **Hardy, G. H.**—Copulation and the terminal segments of diptera. [107] 19: 52–65, ill. **Harvey, E. N.**—The nature of the red and green luminescence of the S. Amer. "railroad worm," Phryxothrix. [Jour. Cell. & Comp. Physiol.] 23: 31–38, ill. **Kalmus, H.**—Action of inert dust on insects. [31] 153: 714–15. **Kevan, D. K. McE.**—The bionomics of the neotropical cornstalk borer, Diatraea lineolata (Pyral) in Trinidad, B.W.I. [22] 35: 23–30. **Laidlaw, H. H. Jr.**—Artificial insemination of the queen bee (Apis mellifera): Morphological basis and results. [57] 74: 429–66, ill. **Lathrop & Dirks**—Timing the seasonal cycle of insects. [12] 37: 199–204. **Light, S. F.**—Parthenogenesis in termites of the gen. Zootermopsis. [Univ. Cal. Pub. Zool.] 43: 405–12. Experimental studies on ectohormonal control of the development of supplementary reproductives in the termite gen. Zootermopsis (formally Termopsis). [Univ. Calif. Pub. Zool.] 43: 413–54, ill. **Mayr, E.**—Chromosomes and Phylogeny [Review of work on Drosophila]. [68] 100 (2584): 11–12. **Middlekauff, W. W.**—Gynandromorphism in recently collected mosquitoes. [12] 37: 297, ill. **Nash, T. A. M.**—A low density of tsetse flies associated with a high incidence of sleeping sickness. [22] 35: 51. **Ochse, W.**—Experimentelle und histologische beitrage zur innern metamorphose von Sialis lutaria. [Rev. Suisse Zool.] 51: 1–82, ill. **Reese, A. M.**—The anatomy of the venom glands in the black widow spider, Latrodectus mactans. [89] 63: 170–74, ill. **Salt & Hollick**—(See under Coleoptera.) **Wedmore, E. B.**—Factors in the production of honey. [31] 153: 578–79. **Wigglesworth, V. B.**—Action of inert dust on insects. [31] 153: 493–94. **Williams & Reid**—Physiological effects of genes: The flight of Drosophila considered in relation to gene mutations. [90] 78: 214–23.

ARACHNIDA AND MYRIOPODA—Baker, E. W.—Nuevos Tydeidae Mexicanos (Acarina). [35] 4: 181–90, ill. Pronecupulatus, a n.gen. of Tydeidae from Mexico (Acadina). [103] 17: 72–3, ill. **Boardman, E. T.**—Methods for collecting ticks for study and delineation. [17] 30: 57–59. **Chamberlin, R. V.**—Some records and descr. of American diplopods. [95] 56: 143–152. **Cooley & Kohls**—The gen. Amblyomma in the U. S. [17]30: 77–111, ill. Argasidae of No. Amer., Cent. Amer. and Cuba. [Monogr. Amer. Mid. Nat.] 1. 152 pp., ill. **Eddy & Joyce.**—Seasonal history and hosts of the American dog tick, Dermacentor variabilis, in Iowa. [81] 18: 313–324. **Fraenkel & Bluett**—The vitamin B-complex requirements of several insects. [Biochem. Jour.] 37: 686–92. The sterol requirements of several insects. Ibid. 692–94. **Islas, F.**—Observaciones sobre el tlalzahuate en izucar de Matamoros y Acatlan, Puebla (Acarina Trombid). [112] 14: 439–50, ill. **Lacerda de Araujo Feio, J.**—Sobre o apresamento e succao em algumas esp. de Pachyolpium e lustrochernes (Pseudoscorp.). [32] Zool. (3): 113–20, ill., 1942. **de Melo-Leitao, C.**—Catalogo das aranhas do Rio Grande do Sul. [Arq. Mus. Nac., R. d. Janeiro] 37: 149–245, ill. (*). Oito novos opilioes do Espirito Santo. [32] 14–17: 1–20, ill. (S*). **Muma, M. H.**—Report on Maryland spiders. [40] 1257 (*). **Murillo, L. M.**—Los insectos y el Clima en Colombia. ["Caldasia" Bol. Inst. Cie. Nat. Univ. Nac. Colombia] 10: 465–71. **Pierce, W. D.**—(See under Coleoptera.) **Reese, A. M.**—(See under anatomy, &c.) **Solomon, M. E.**—Behavior of tyroglyphid mite populations in stored grain and flour. [20] 31: 81. **Verhoeff, K. W.**—Ueber einige diplopoden aus Minas Gerais (Brasil.). [Arq. Mus. Nac., R. d. Janeiro] 37: 249–288, ill. (*).

THE SMALLER ORDERS—Atwood, E. P.—Lion and lacewing lore. [Nature Mag., Washington] 37: 317–18, ill. **Bonet, F.**—Sobre la clasificacion de los Oncopoduridae (Collembola), con descr. de esp. n. [An. Esc. Nac. Cie. Biol. Mexico] 3: 127–53, ill. (S). **Collenette, C. L.**—Odonata avoiding limestone country. [9] 77: 61. **Dendy, J. S.**—Notes on Trichoptera, Elmidae and Plecoptera from pre-impoundment bottom fauna studies of Cherokee and Watts Bar areas (Tenn.). [49] 19: 175–76. **Dias dos Santos, N.**—Libellulidae coligidos em ilha seca (Est. d. S. Paulo) salobra e bodoquena (Est. d. Mato Grosso) pela comissao cientifica do Inas. Oswaldo Cruz. [32] Zool. (16):

10 pp. **Fraser, F. C.**—Diurnal and nocturnal resting habits of Bradinopyga geminata (Odonata). [8] 80: 76–7, ill. Significance of vestigal oblique veins in the evolution of intercalated veins in the odonate wing, with the descr. of a n.gen. [108] 13: 58–67, ill. **Leitao de Carvalho, A.**—Sobre "Peripatus heloisae" do Brasil Central. [32] Zool. (2): 1–112, ill., 1942. **Robert, F. A.**—Aperçu des odonates abitibiennes [abstract]. [96] 10: 101. **Zavaleta, D.**—Una n. esp. de Trochiloectes (Mallophaga). [112] 14: 613–18, ill. (S).

ORTHOPTERA—Andrewartha, H. G.—(See under anatomy, &c.) **Chagnon, G.**—Contribution a l'etude des orthopteres et des dermapteres du Quebec. [76] 71: 127–48, ill. **Fox, W. B.**—An unusual egg laying site for the two-striped grasshopper [4] 76: 111, ill. **Giral, Giral & Giral**—Sobre Aceites de insectos. III. Nuevos datos sobre Taeniopoda auricornis. [121] 4: 215–16. **Liebermann, J.**—Hacia la solucion de un gran problema Argentino: La langosta. Interpretacion de la periodicidad de la migraciones acridicas. [106] 137: 122–30. **Pierce, W. D.**—(See under Coleoptera). **Tinkham, E. R.**—Biological, taxonomic and faunistic studies on the shield-back katydids of the No. Amer. deserts. [119] 31: 257–328, ill. (*).

HEMIPTERA—Black, L. M.—Some viruses transmitted by Agallian leafhoppers. [Proc. Amer. Phil. Soc.] 88 (2): 132–144, ill. **Butt, F. H.**—Comparative study of mouthparts of representative Hemiptera-Homoptera. [Mem., Cornell Univ.] 254: 20 pp., ill. **DeLong, D. W.**—The Mexican sp. of Phlepsius. (Cicadel) [10] 46: 85–94, ill. (*). Mexican sp. of leafhoppers of the gen. Texananus. (Cicad.) [91] 34: 228–39, ill. (*). **Drake and Carvalho.**—Four new American Tingidae. [19] 39: 41–44. **Drake & Hambleton**—Four new American Tingitidae. [10] 46: 94–96. **Harris & Drake**—New apterous Aradidae from the Western Hemisphere. [10] 46: 128–32 (k). **Hungerford, H. B.**—Synonymic notes in the genus Glaenocorisa. [19] 39: 32–34. **Knight, H. H.**—Lygus Hahn: 6 n. sps. from Western N. Am. (Mirid). [81] 18: 471–77. **Neiva e Lent.**—Triatomideos do Chile (Reduvid). [111] 39: 43–74, ill. **Pelaez, D.**—Algunas observaciones sobre la esp. mas Antigua del gen. Sphonogophorus (Homopt. Membracid). [35] 4: 171–80, ill. **Plummer, C. C.**—Cinco nuevos membracidos de Mexico. [An. Esc. Nac. Cie. Biol. Mexico] 3: 155–61, ill. **Sailer, R. I.**—The genus Solubea. (Pentatom.)

[10] 46: 105–27, ill. (k,*). **Usinger, R. L.**—Genus Ilyocoris (Naucorid). [103] 17: 76–7. **Wood, S. W.**—Reptile associates of wood rats and cone-nosed bugs. [38] 43: 44–48. **Wygodinsky, P.**—Contribuicao ao conhecimento do gen. Salyavata (Reduvid). [32] Zool. (6): 27 pp., ill. (S,*).

LEPIDOPTERA—d'Almeida, R. F.—Alguns tipos de gen. da ordem Lepidoptera quinta nota Heterocera, Hemileucid. [32] Zool. (7): 10 pp. Quarta nota: Mimallonid. (10): 6 pp. **Avinoff, A.**—Affinities of Phoebis rorata comstocki, a new pierid butterfly from Jamaica [Ann. Carnegie Mus.] 30: 45–56, ill. **Clench, H. K.**—Notes on lycaenid butterflies. [26] 94: 217–45 (*). **Comeau, N. M.**—Disparition du Stilpnotia salicis (L.) daus la region du Cap Rouge [abstract]. [96] 10: 103. **Dethier, V. G.**—Notes on the immature stages of Urbanus tessellata occidentalis. [38] 43: 30–32, ill. **Duncan, J.**—Facteurs determinant la croissance de la pyrale du mais en 1943. [96] 10: 114. **Forbes, W. T. M.**—Crambus teterrellus. [19] 39: 44. **Hayward, K. J.**—Notes on Hesperiidae in the coll. of the Mus. Nac. do Brasil. [32] 14–17: 65–82, ill. (S,*). **Hodgson, S. B.**—Lepidoptera eaten by bats. [9] 77: 62–3. **Hovanitz, W.**—(See under General.) **Isely & Miner.**—Lesser cornstalk borer, a pest of fall beans. [103] 17: 51–56. **Kevan, D. K. McE.**—(See under Anatomy, &c.) **McDunnough, J.**—Three aster-feeding coleophorids and their allies. [4] 76: 104–109, ill. (*).—A correction regarding the female sex of Coleophora quadruplex. Ib. 110–11, ill. Hydriomena studies I. [38] 43: 23–29 (*). **May & Oiticica Fil.**—Paradaemonia ruschii n.sp. (Arsenurinae). [32] Zool. (8): 14 pp., ill. (S). **Medlar, W. P.**—A n.sp. of Pseudohazis from Washington (Saturn). [4] 76: 112. **Mignault, J.**—Anomalies chez le Telea polyphemus [abstract]. [96] 10: 105. **Oiticica, J., Fil.**—Nota sobre Dysdaemonia timur (Arsenurin). [32] Zool. (14): 11 pp., ill. **Taylor, D. J.**—Life history studies of the sugarcane moth borer, Diatraea saccharalis. [39] 27: 10–13. **Travassos & May.**—Adelocephalinae da coleocao julius arp. [32] Zool. (11): 22 pp., ill. **Watson, J. R.**—Mourning cloak butterfly in Florida. [39] 27: 17. **Wiltshire, E. P.**—Taxonomic value of genital armature in lepidoptera. [21] 56: 47–8.

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